

CLAIMS

1. A wheel run state measuring method of using an acceleration sensor in the traveling direction of each wheel and a wheel rotation sensor, attached to each axle unit of a vehicle.
2. A wheel run state measuring method of using an acceleration sensor in the traveling direction of each wheel, attached to each axle unit of a vehicle, an acceleration sensor in the lateral direction of each wheel, and a wheel rotation sensor.
3. A wheel run state measuring method of using an acceleration sensor in the traveling direction of each wheel, attached to each axle unit having a drive wheel of a vehicle and a wheel rotation sensor.
4. The vehicle using the method as claimed in claim 1.
5. The vehicle using the method as claimed in claim 2.
6. The vehicle using the method as claimed in claim 3.
7. An axle unit or a rolling bearing unit for axle support comprising:
an acceleration sensor for measuring acceleration in the

traveling direction of a wheel, and

a rotation sensor for measuring the rotation angular speed of the wheel.

8. A vehicle control apparatus using an acceleration sensor of each wheel and a wheel rotation sensor, attached to each axle unit of a vehicle.

9. The rolling bearing unit for axle support comprising:
the acceleration sensor and the rotation sensor as claimed in claim 8.

10. A wheel unit comprising:

a stationary member,

a rotation member being rotatable relative to the stationary member,

a sensor rotor being attached to the rotation member,

a rotation speed sensor being attached to the stationary member so as to be opposed to the sensor rotor for outputting a rotation speed signal responsive to the rotation speed of the sensor rotor, and

an acceleration sensor being attached to the stationary member for outputting an acceleration signal responsive to the acceleration in the traveling direction of the wheel unit.

11. A wheel unit comprising:

a stationary member,

a rotation member being rotatable relative to the stationary member, .

a sensor rotor being attached to the rotation member,

a rotation speed sensor being attached to the stationary member so as to be opposed to the sensor rotor for outputting a rotation speed signal responsive to the rotation speed of the sensor rotor, and

an acceleration sensor being attached to the stationary member for outputting an acceleration signal responsive to the acceleration in the traveling direction of wheel.

12. A rolling bearing unit for wheel support comprising:

a rotation wheel,

a stationary wheel,

a plurality of rolling elements being placed between the stationary wheel and the rotation wheel,

a sensor rotor being attached to the rotation wheel,

a rotation speed sensor being attached to the stationary wheel so as to be opposed to the sensor rotor for outputting a rotation speed signal responsive to the rotation speed of the sensor rotor, and

an acceleration sensor being attached to the stationary wheel for outputting an acceleration signal responsive to the

acceleration in the traveling direction of wheel.

13. A wheel unit comprising:

a stationary member of the wheel unit below a spring of a vehicle suspension,

a rotation member being rotatable relative to the stationary member,

a sensor rotor being attached to the rotation member,

a rotation speed sensor being attached to the stationary member so as to be opposed to the sensor rotor for outputting a rotation speed signal responsive to the rotation speed of the sensor rotor, and

a semiconductor acceleration sensor being attached to the stationary member for outputting an acceleration signal responsive to the acceleration in the traveling direction of wheel.

14. A vehicle control method using an acceleration sensor in the traveling direction of each wheel and a wheel rotation sensor, attached to each axle unit of a vehicle.

15. The sensor comprising:

an acceleration sensor and a rotation speed sensor provided on a wheel to use the measuring method as claimed in claim 1 or the vehicle control method as claimed in claim 14.

16. The bearing comprising the sensor as claimed in claim 15.

17. The control system for controlling the run state of an automobile using the measuring method as claimed in claim 1 or the vehicle control method as claimed in claim 14.